

REMARKS

Claims 1, 5, 7-10, 13-17, 19 and 21-61 are cancelled.

Claims 2-4, 6, 11-12, 18 and 20 are pending.

Claims 4, 6, 11-12, 18, and 20 are withdrawn from consideration.

Claims 2-3 and 62-64 are rejected.

The office action dated 30 Jan. 2009 indicates that base claims 62 and 64 are rejected under 35 USC 103(a) as being unpatentable over Polk U.S. Patent No. 3,024,521 in view of Collora U.S. Patent No. 4,527,783 and Dearman U.S. Patent No. 4,726,575. The '103 rejections are respectfully traversed.

Polk discloses a rigid plate 10 that supports a plurality of tubes 15. The tubes 15 are pressed together against a backing bar 21 by a plurality of screws 24 and handwheels 26 (col. 4, lines 43+). The tubes 15 are also pressed against the rigid plate 10 by I-beams 16 and screws 17 threaded in a rigid cross bar 13 (col. 4, lines 33-35).

Collora discloses an apparatus for holding a contoured work piece in an upright position so manufacturing operations can be performed on the work piece. According to the Abstract, the apparatus includes a spring metal frame supported by a base. The apparatus further includes actuators for deforming the frame to the contour of the work piece. Vacuum cups secure the work piece to the metal frame.

Dearman discloses an apparatus for aligning the confronting ends of two pipes. The apparatus includes a chain 8 and screw-type supports 10 attached to the chain 8. The chain wraps around a first pipe. The supports 10 extend transversely of the chain 8 at a distance sufficient to project beyond the first pipe end and over a second pipe (col. 1, line 64 to col. 2, line 6). The supports 10 provide support and alignment for the second pipe.

The combined teachings of these three patents don't produce a system having all of the features of claims 62 or 64. Dearman discloses a chain 8 of links, and screw-type supports 10 attached to the chain 8. Dearman does not teach or suggest a chain of coupling units and force applying units, where the coupling units are interspersed with the force applying units. Neither do Polk and Collora. For this reason alone, the '103 rejections of base claims 62 and 64 should be withdrawn.

Moreover, it is not clear how the combination of these three patents produces the systems of claims 62 and 64. The office action doesn't explain a logical jump from Polk's device to the claimed systems. The office action offers little more than a series of allegations and conclusions.

The office action asserts that Polk discloses coupling units, but doesn't identify them. The office action then asserts that it is obvious to couple Polk's coupling units (not force applying units) with a flexible frame as taught by Collora, but doesn't explain how the units would be coupled together by a flexible frame or why coupling units should be coupled together by a flexible frame. Finally, the office action asserts that it would be obvious to use Dearman's chain in place of Collora's flexible frame. The office action offers no rationale, only the opinion that a link chain is the equivalent of a spring metal frame.

On 28 April 2009, the undersigned called Examiner Watson and left a message requesting him to clarify the issues above. Examiner Watson returned the call on 29 April 2009 and left a message clarifying the issues. He is thanked for doing so, and his quick reply is greatly appreciated.

In his message, Examiner Watson stated that the cross bar 13 is a coupling unit, which couples the force applying units (screws 17) together. He then stated that it would be obvious to couple the screws 17 together with a flexible member (as taught by Collora), and that Dearman's chain is an obvious substitute. He concluded by stating his position that no further elucidation is required.

The MPEP does not support the examiner's position. MPEP 2142 states

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" (*citations omitted*).

The office action provides no clear articulation of the reasons why claims 62 and 64 are obvious. Without an elucidation, prima facie obviousness of base claims 62 and 64 is not established.

Moreover, the '103 rejection is based on the assertion that Dearman's chain is the mechanical equivalent of Collora's flexible member. According to MPEP 2144.06, however, that assertion alone is insufficient to establish prima facie obviousness of claims 62 and 64. MPEP 2144.06 states

In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents.

The office action does not cite evidence or provide a rationale establishing equivalency. For this additional reason, prima facie obviousness of base claims 62 and 64 is not established.

Moreover, it is still not clear where Collora suggests replacing Polk's rigid cross bar with a spring flexible frame or any other flexible member. Collora discloses a spring metal frame that can be bent (by actuators) to conform to a contoured surface of a work piece. The actuators apply a force to the frame, not a work piece.

Thus, the office action has not established prima facie obviousness of base claims 62 and 64. Therefore, the '103 rejections of base claim 64, base claim 62, and its dependent claims 2-3 and 63 should be withdrawn.

New claim 66 should be allowed for the reasons above. New claim 66 further clarifies the chain of coupling units and force applying units. Specifically, the coupling units are interspersed with the force applying units; and the coupling units are lockable. When unlocked, the coupling units make the chain flexible and allow the force-applying units to conform to the upper surface of the top work piece. When locked, the coupling units make the chain rigid and allow the force-applying units to press the top work piece against the underlying work piece. Support in the specification is provided in the paragraph starting on page 3, line 28.

New claim 65 should be allowed because it depends from claim 64. New claim 65 should be allowed for the additional reason that the cited documents do not teach or suggest aircraft skin or an aircraft frame. These two features are recited in the body of claim 65.

Finally, the office action indicates that claims 2 and 3 are rejected under 35 USC 112, first paragraph, for being non-enabling because "it is not clear how the device claimed in claim 63 and [shown] in Figure 6a,6b is intended to be combined with the subject matter of claims 2 and 3 as no bendable elbow is shown in Figure 6a,6b. The '112 rejection is respectfully traversed. An explanation is provided on page 5, lines 17-18. The pivot 32 allows the arms 31 and 33 to bend with respect to each other "like an elbow." The pivot ball 132 in Figures 6a,6b allows the arms 131 and 133 to pivot and rotate with respect to each other.

The Examiner is encouraged to contact the undersigned to discuss any outstanding issues prior to mailing another office action.

Respectfully submitted,

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